

REMARKS

Claims 11-20 are pending. Claim 14 has been amended. No new matter has been added.

Claims 11-20 are rejected. Claims 11, 14, 15, and 16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 11, 14-15, and 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh et al. (U.S. Patent No. 4,866,634) ("Reboh") in view of Huh et al. (U.S. Patent No. 5,396,612) ("Huh"). Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh in view of Huh and further in view of Masch (U.S. Patent No. 5,930,762). Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh in view of Huh and further in view of "Statistics, Meaning and Method," Lawrence Lapin (1980) ("Lapin").

Rejection of Claims 11, 14, 15, and 16 Under 35 U.S.C. § 112, Second Paragraph

Claims 11, 14, 15, and 16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Examiner asserts that these claims recite the limitation "calculating the likelihood," which is vague and indefinite, since likelihood is a mere guess, no limitation is imposed upon the claimed invention. This rejection is respectfully traversed.

In the Examiner's Response to Arguments, the Examiner "states that the limitation 'calculating the likelihood' is vague and indefinite, under 35 U.S.C. 112, and construed to have the meaning 'probability' for the purposes of rejection under 35 USC 103." The undersigned representative maintains that likelihood is a term known by one of ordinary skill in the statistical arts and should not be construed as either a guess or a probability. In the Response to the Office Action of December 14, 2006, the undersigned representative recited a definition of "likelihood":

Likelihood as a solitary term is shorthand for likelihood function. In non-technical usage, "likelihood" is a synonym for "probability," but throughout this article only the technical definition is used. Information, if "probability" allows us to predict unknown outcomes based on known parameters, then "likelihood" allows us to determine unknown parameters based on known outcomes.

See <<<http://en.wikipedia.org/wiki/Likelihood>>> (access April 11, 2007). Because “likelihood” is applied in a technical usage, this definition confirms that “likelihood” is differs from “probability.” Indeed, based on the claim language, it is readily apparent that “calculating the likelihood that changes to the set of input data are the result of one or more errors” would be determining unknown parameters (e.g., whether there may be errors) based on known outcomes (e.g., changes to the set of input data). Thus, “likelihood” is a term in the art that cannot be vague and indefinite.

Furthermore, a calculation of a likelihood is also not vague or indefinite. The Examiner fails to provide any reasons why such a calculation is vague or indefinite. The undersigned representative submits that, using the exemplary definition above, “calculating the likelihood” means calculating unknown parameters based on known outcomes. For example, as recited in claim 11, the known outcome is the change to the set of input data. As a result, the one or more central processing units calculates to see if the known outcome can be the result of an error (an unknown parameter).

The Examiner concludes that “likelihood is a mere guess” without any support or reasoning. But a guess is not calculated. And, as discussed above, “likelihood” is a term of art that is not equivalent to a guess. The Examiner’s simplification of statistical terminology by equating “likelihood” to “guess” underscores the Examiner’s misapplied construction and confusion with these claims. These terms are recognized by one of ordinary skill and should not be subject to an “indefinite” rejection. Accordingly, the undersigned representative requests that the Examiner withdraw the rejection of claims 11 and 14-16 under 35 U.S.C. § 112.

Rejection of Claims 11, 14-15, and 17-20 Under 35 U.S.C. § 103(a)

Claims 11, 14-15, and 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh et al. (U.S. Patent No. 4,866,634) (“Reboh”) in view of Huh et al. (U.S. Patent No. 5,396,612) (“Huh”). This rejection is respectfully traversed.

Neither Reboh nor Huh, alone or in combination, teach or suggest “the one or more central processing units calculating the likelihood that changes to the set of input data are the result of one or more errors,” as recited in claims 11 and 14. On page 5 of the Office Action, the Examiner continues to recognize that Reboh “does not explicitly

disclose one or more central processing units calculating the likelihood that changes to the set of input data are the result of one or more errors.” However, the Examiner maintains that Huh discloses this element.

Huh, as cited by the Examiner, recites in part, “At block 806, the program classifies, in accordance with the above definitions provided for normalization, translational, and spurious-operational changes, the mismatch, or change.” Col. 8, lines 20-23. But this recitation does not teach or suggest “calculating the likelihood.” In Huh, when a record changes from one process to another, a user determines a class for that change.¹ Col. 4, lines 20-23. *All of these changes are errors*, so the user only needs to identify the *type* of error. Col. 3, lines 28-32. For example, if an extra space has been inserted, the user would classify the error as a normalization change. Col. 3, lines 35-39. In another example, when a data processor change the value of a data field, the user would classify the error as a spurious-operational change. Col. 3, lines 48-49. Thus, once a change has been identified, the user classifies the change based upon what caused the change. In other words, the user looks at the cause of the error to classify the change.

In contrast, claims 11 and 14 recite, “the one or more central processing units calculating the likelihood that changes to the set of input data are the result of one or more errors.” By “calculating the likelihood,” the systems recited in claims 11 and 14 do not classify changes based upon the type of error. Instead, “calculating the likelihood” refers to determining the chance that a change in the observed data, a known outcome, is from an error or whether it is an acceptable change. So these systems do not know if the change is an error (whereas Huh assumes all changes are errors) and calculates to see the likelihood of such a change being from an error. Therefore, Huh does not cure the deficiencies of Reboh because Huh does not teach or suggest “calculating the likelihood that changes to the set of input data are the result of one or more errors,” as recited in claims 11 and 14.

With regard to claim 14, on pages 5-6 of the Office Action, the Examiner states that the term “that displays” is a non-functional descriptive term that could be amended to

¹ Huh also recites that a “program” can perform this step, but does not enable such a process. See Col. 8, line 15-33.

recite “displaying” without narrowing the limitations of the claim. Accordingly, claim 14 has been amended to recite “displaying.”

With regard to claim 15, the Examiner’s Official Notice is improper. Claim 15 recites, “displaying a result includes displaying an icon indicative of the degree of likelihood that changes to the set of input data are the result of one or more errors.” The Examiner takes Official Notice that “displaying an icon indicating an error” is common and well known in prior art in reference to statistical analysis. However, claim 15 does not recite “displaying an icon indicating an error.” In fact, there is quite a difference between “indicative of the degree of likelihood that changes to the set of input data are the result of one or more errors” and “indicating an error.” Because this Official Notice is not germane to establishing the Examiner’s *prima facie* case of obviousness, the undersigned representative submits that this Official Notice is rendered moot.

Similarly, with regard to claims 17-20, the Examiner’s Official Notice is still improper. In the Examiner’s Response to Arguments, the Examiner states that Official Notice is taken to be admitted as prior art because the Applicant’s attempt at traversing the Official Notice findings as stated in the previous Office Action is inadequate. The Examiner states that adequate traversal is a two step process: (1) Applicant must state their traversal on the record; and (2) Applicant must state why the Official Notice statements are not to be considered common knowledge or well known in the art. The Examiner recognizes that the undersigned representative clearly met step (1). With regard to step (2), the Examiner states that Applicant has failed to argue why the Official Notice statements are not considered common knowledge or well known in the art. However, the Examiner appears to have misunderstood the undersigned representative’s arguments.

Claim 17 recites “wherein calculating the information content of the input data is performed by calculating the Shannon entropy of the input data.” In the Office Action of December 14, 2006, the Examiner took Office Notice that “statistical analysis is performed by calculating the Shannon entropy (sic)” is common and well known. But claim 17 is not reciting that “statistical analysis is performed by calculating the Shannon entropy.” So even if this statement were correct, it is not germane to establishing the Examiner’s *prima facie* case of obviousness. The Examiner’s deficiencies in the *prima*

facie case cannot be met by Official Notice of an unrelated statement. As a result, this statement by the Examiner, whether or not it qualifies as Official Notice, cannot be admitted as “prior art” because it does not address the actual claim limitation. Accordingly, the undersigned representative respectfully requests that the Examiner withdraw this admission of Official Notice.

Therefore, neither Reboh nor Huh, alone or in combination, teach or suggest each and every element of claims 11 and 14. Because claim 14 is believed to be allowable, claims 15 and 17-20 are also believed to be allowable as they depend on claim 14. Accordingly, the undersigned representative respectfully requests that the Examiner withdraw the rejection of claims 11, 14-15, and 17-20.

Rejection of Claims 12 and 13 Under 35 U.S.C. § 103(a)

Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh in view of Huh and further in view of Masch (U.S. Patent No. 5,930,762). This rejection is respectfully traversed. For at least the reasons set forth above with respect to claim 11, Reboh and Huh do not establish a *prima facie* case of obviousness with respect to claims 12 and 13 because Reboh and Huh do not teach or suggest each and every element of the independent claim. Masch fails to cure the deficiencies of Reboh and Huh. Therefore, the undersigned representative respectfully requests that the Examiner withdraw the rejection of claims 12 and 13.

Rejection of Claim 16 Under 35 U.S.C. § 103(a)

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Reboh in view of Huh and further in view of “Statistics, Meaning and Method,” Lawrence Lapin (1980) (“Lapin”). This rejection is respectfully traversed. For at least the reasons set forth above with respect to claim 14, Reboh and Huh do not establish a *prima facie* case of obviousness with respect to claim 16 because Reboh and Huh do not teach or suggest each and every element of the independent claim. Lapin fails to cure the deficiencies of Reboh and Huh. On pages 8-9 of the Office Action, the Examiner states that “Laupin (sic) discloses ... performing a statistical analysis of the calculated information content relative to the one or more historical values to determine the likelihood that changes to

the input data are the result of one or more errors (Pages 247-248).” Although Lapin is, of course, directed to a type of statistical analysis, Lapin does not teach or suggest an analysis of the calculated information content relative to one or more historical values. In fact, Lapin does not even address historical values. Lapin’s discussion of “Finding the Error Probabilities” recites the use of a test statistic for hypothesis testing. *See* pages 243-48. In contrast, claim 16 recites “determin[ing] the likelihood that changes to the input data are the result of one or more errors,” which is not taught or suggested by hypothesis testing. Interestingly, the Examiner chose to assert Lapin for this element rather than Huh, which the Examiner asserts above as teaching or suggesting “calculating the likelihood.” Nevertheless, neither Hugh nor Lapin cure the deficiencies of Reboh and teach or suggest this element. Therefore, the undersigned representative respectfully requests that the Examiner withdraw the rejection of claim 16.

Pending Related Application

The undersigned representative takes this opportunity to remind the Examiner that co-pending U.S. Patent Application Serial No. 10/989,046 is directed to the cancelled claims from this application and is currently being examined by Examiner Norman. In order to expedite prosecution and efficiently utilize Patent Office resources, the undersigned representative would welcome an opportunity to interview this application along with the co-pending application with Examiner Norman. The undersigned representative believes that the inconsistent application of Huh to the pending claims and a possible consolidation of these applications may be better suited in a forum such as an interview with both Examiners.

CONCLUSION

The undersigned representative respectfully submits that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that the prosecution might be advanced by discussing the application with the undersigned representative, in person or over the telephone, we welcome the opportunity to do so. In addition, if any additional fees are required in connection with the filling of this response, the Commissioner is hereby authorized to charge the same to Deposit Account 50-3732.

Respectfully submitted,

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